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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,185	04/02/2004	C. Winfield Scott	27990-11	2155
24256	7590	06/22/2005	EXAMINER	
DINSMORE & SHOHL, LLP 1900 CHEMED CENTER 255 EAST FIFTH STREET CINCINNATI, OH 45202			DEUBLE, MARK A	
			ART UNIT	PAPER NUMBER
			3651	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,185	<b>Applicant(s)</b> SCOTT, C. WINFIELD	
	<b>Examiner</b> Mark A. Deuble	<b>Art Unit</b> 3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-10 and 15-25 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 11-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). In the present application, there are two claims numbered 19.

Misnumbered claims beginning with the second claim 19 have been renumbered as claims 20-25.

Claim 21 (originally numbered claim 20) is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim states that the axle comprises a stub axle which is a limitation that was already included in claim 15 from which claim 21 depends through claim 18. It appears that claim 21 should be amended to depend from claim 19 instead of claim 18.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the inner race" inline 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai et al. (U.S. Patent No. 5,080,219).

Imai et al shows an axle 31 used in a conveyor roller that has an elongate body portion and a cylindrical tip portion extending away from the body portion. A hollow end cap 33 made of an elastomeric rubber with a hardness less than that of the tip portion is secured on the tip portion of the axle so that the proximal end of the cap engages a shoulder located between the body portion and the tip portion. Thus, Imai et al shows generally all the structure required by the claims, however, it does not disclose how the cap 33 is secured to the tip of the axle or the shape of the end cap. Additionally the shoulder is formed from a separate bearing race and not from the axle itself. However, the use of threading for securing the cap to the axle would have been obvious to one of ordinary skill in the art at the time of the invention because such threading is commonly used for securing many parts of a conveyor together. The use of

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hexagonal shapes for securing stub axles to conveyor frames would also have been obvious to one of ordinary skill in the art as it is very common and well known. Furthermore, the use of threads for securing the cap 33 does not create any functional differences in the axle and therefore the use of threads is deemed to be functionally equivalent with caps secured by other means. Finally, it should be noted that while the shoulder is not an integral part of the axle, is secured thereto and may be viewed as forming part of the axle when the roller is assembled.

6. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imai et al. in view of Pierson (U.S. Patent No. 5,875,878).

Pierson shows, in Fig. 6, a stub axle 14 having an polymeric and elastic plastic end cap 35 secured thereon that is tapered and hexagonal. Pierson teaches that this end cap advantageously provides a secure fit between the stub axle and the mounting hole in the conveyor frame that reduces noise and wear and that may easily be replaced if it becomes damaged. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an end cap of the type shown in Pierson on a stub axle in the apparatus of Imai et al according to the teachings of Pierson. When this is done, the resulting apparatus would have all the structure required by claims 21 and 23-25 of the present invention.

7. Claims 1-3, 9-10, 15-19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf (U.S. Patent No. 6,782,996) in view of Imai et al.

Wolf shows a conveyor roller comprising an elongate tube 20 and a roller insert 24 inserted into each end of the roller tube. Each insert includes a cartridges 26 having an inner and outer ends configured to be inserted into an end of a conveyor tube and a stub axle 22 positioned within the cartridge. The stub axle has an elongate body 22a and a generally

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cylindrical tip portion 22d extending away from the body portion. A bearing 28 is mounted within the cartridge to support the axle such that the cartridge is rotatable with respect to the axle and the axle is slidable with respect to the bearing. This is achieved via a bushing 30 that is mounted within the bearing so the body of the axle is slidingly positioned in a central bore 30a in the bushing. The bushing also includes an outer circumference with a groove formed therein to support an inner race of the bearing positioned within the groove. A spring 34 biases the axle outwardly from the cartridge such that its end projects outwardly from the outer end of the cartridge. Thus, Wolf shows generally all the structure required by the claims except for the end cap of claims 1-3, 15-19, 21, and 23. However, Imai et al. as shows a hollow end cap 33 made of an elastomeric rubber with a hardness less than that of a tip portion of an axle 31 that is secured on the tip portion of the axle so that the proximal end of the cap engages a shoulder located between the body portion and the tip portion. Imai et al teaches that such an end cap provide an advantageous means of attaching the shaft to a conveyor frame with a secure fit and reduced vibration. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the stub axle of Wolf with such an end cap as taught by Imai et al. When this is done, the resulting apparatus would have all the structure required by claims 1-3, 9-10, 15-19, 21 and 23.

8. Claims 1, 9-10, 15, 19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolf in view of Pierson (U.S. Patent No. 5,875,878).

Wolf shows a conveyor roller comprising an elongate tube 20 and a roller insert 24 inserted into each end of the roller tube. Each insert includes a cartridges 26 having and inner and outer ends configured to be inserted into an end of a conveyor tube and a stub axle 22

positioned within the cartridge. The stub axle has an elongate body 22a and a generally cylindrical tip portion 22d extending away from the body portion. A bearing 28 is mounted within the cartridge to support the axle such that the cartridge is rotatable with respect to the axle and the axle is slidable with respect to the bearing. This is achieved via a bushing 30 that is mounted within the bearing so the body of the axle is slidingly positioned in a central bore 30a in the bushing. The bushing also includes an outer circumference with a groove formed therein to support an inner race of the bearing positioned within the groove. A spring 34 biases the axle outwardly from the cartridge such that its end projects outwardly from the outer end of the cartridge. Thus, Wolf shows generally all the structure required by the claims except for the end cap of claims 1, 15, 19, 21-25. However, Pierson shows, in Fig. 6, a stub axle 14 having an polymeric and elastic plastic end cap 35 secured thereon that is tapered and hexagonal. Pierson teaches that this end cap advantageously provides a secure fit between the stub axle and the mounting hole in the conveyor frame that reduces noise and wear and that may easily be replaced if it becomes damaged. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the stub axle of Wolf with such an end cap as taught by Pierson. When this is done, the resulting apparatus would have all the structure required by claims 1, 9-10, 15, 19, and 21-25.

9. Claims 1-3, 8-10, 15-19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott (U.S. Patent No. 5,865,290) in view of Imai et al.

Scott shows a conveyor roller comprising an elongate tube 14 and a roller insert 10 inserted into each end of the roller tube. Each insert includes a cartridges 12 having an inner and outer ends configured to be inserted into an end of a conveyor tube and a stub axle 30

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positioned within the cartridge. The stub axle has an elongate body and a generally cylindrical tip portion 32 extending away from the body portion. A pair of bearings 50 and 64 is mounted within the cartridge to support the axle such that the cartridge is rotatable with respect to the axle and the axle is slidable with respect to the bearing. This is achieved via a bushing 59 that is mounted within the bearing so the body of the axle is slidingly positioned in a central bore 60 in the bushing. The bushing also includes an outer circumference with an L-shaped groove formed therein to support an inner race 63 of the bearing positioned within the groove. A spring 34 biases the axle outwardly from the cartridge such that its end projects outwardly from the outer end of the cartridge. Thus, Scott shows generally all the structure required by the claims except for the end cap of claims 1-3, 15-19, 21, and 23. However, Imai et al. as shows a hollow end cap 33 made of an elastomeric rubber with a hardness less than that of a tip portion of an axle 31 that is secured on the tip portion of the axle so that the proximal end of the cap engages a shoulder located between the body portion and the tip portion. Imai et al teaches that such an end cap provide an advantageous means of attaching the shaft to a conveyor frame with a secure fit and reduced vibration. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the stub axle of Wolf with such an end cap as taught by Imai et al. When this is done, the resulting apparatus would have all the structure required by claims 1-3, 8-10, 15-19, 21 and 23.

10. Claims 1, 8-10, 15, 19, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott (U.S. Patent No. 5,865,290) in view of Pierson.

Scott shows a conveyor roller comprising an elongate tube 14 and a roller insert 10 inserted into each end of the roller tube. Each insert includes a cartridges 12 having an inner



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and outer ends configured to be inserted into an end of a conveyor tube and a stub axle 30 positioned within the cartridge. The stub axle has an elongate body and a generally cylindrical tip portion 32 extending away from the body portion. A pair of bearings 50 and 64 is mounted within the cartridge to support the axle such that the cartridge is rotatable with respect to the axle and the axle is slidable with respect to the bearing. This is achieved via a bushing 59 that is mounted within the bearing so the body of the axle is slidably positioned in a central bore 60 in the bushing. The bushing also includes an outer circumference with an L-shaped groove formed therein to support an inner race 63 of the bearing positioned within the groove. A spring 34 biases the axle outwardly from the cartridge such that its end projects outwardly from the outer end of the cartridge. Thus, Scott shows generally all the structure required by the claims except for the end cap of claims 1, 15, 19 and 21-25. However, Pierson shows, in Fig. 6, a stub axle 14 having an polymeric and elastic plastic end cap 35 secured thereon that is tapered and hexagonal. Pierson teaches that this end cap advantageously provides a secure fit between the stub axle and the mounting hole in the conveyor frame that reduces noise and wear and that may easily be replaced if it becomes damaged. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the stub axle of Wolf with such an end cap as taught by Pierson. When this is done, the resulting apparatus would have all the structure required by claims 1, 8-10, 15, 19, and 21-25.

***Allowable Subject Matter***

11. Claim 4-7 and 11-14 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nimmo et al. and McNash both show sub axle conveyor rollers similar to that of the present invention.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Deuble whose telephone number is (571) 272-6912. The examiner can normally be reached on Monday through Friday except for alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene O. Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

md

  
GENE O. CRAWFORD  
PRIMARY EXAMINER